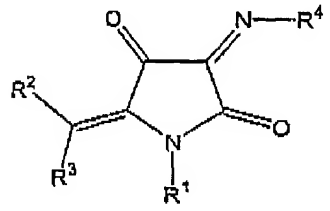
Serial No. 10/066,801

In the Claims

1. (Original) A substituted pyrrolidine-2,3,4-trione compound of formula I



I

wherein

R^1 represents H, OR^8, COR^5, CSR^5, NR^6R^7, $COOR^5$, $CONR^6R^7$, $CSNR^6R^7$, a C_{1-10}-alkyl group or an unsubstituted phenyl group,

R^2, R^3, which are identical or different, represent H, F, Cl, Br, CF_3, OR^8, SR^8, a C_{1-10}-alkyl, an aryl or a heteroaryl group or represent an aryl group bonded via a C_{1-6}-alkylene group,

R^4 represents H, OH, OR^8, SR^8, COR^5, $COOR^5$, $COCOR^5$, $CONR^6R^7$, $CSNR^6R^7$ or a C_{1-10}-alkyl group,

R^5 represents H or a C_{1-10}-alkyl group,

R^6, R^7, which are identical or different, represent H, OR^8, COR^5, $COOR^5$ or a C_{1-10}-alkyl group, and

R^8 represents a C_{1-10}-alkyl group,

in the form of their racemates, enantiomers, diastereomers or a corresponding physiologically tolerated salt.

2. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^1 represents a C_{1-6}-alkyl group.

3. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^2 or R^3 represents, or R^2 and R^3 both represent a C_{1-6}-alkyl group.

4. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^2 or R^3 represents, or R^2 and R^3 both represent an aryl group bonded via a C_{1-3}-alkylene group.

5. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^4 represents OH.

6. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^4 represents OR^8.

7. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^4 represents a C_{1-6}-alkyl group.

8. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^5 represents a C_{1-6}-alkyl group.

9. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^6, or R^7 represents, or R^6 and R^7 both represent, a C_{1-6}-alkyl group.

10. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, wherein R^8 represents a C_{1-6}-alkyl group.

11. (Original) A substituted pyrrolidine-2,3,4-trione compound according to claim 1, selected from the group consisting of:

5-(methoxyphenylmethylene)-pyrrolidine-2,3,4-trione 3-oxime;

5-(bromophenylmethylene)-pyrrolidine-2,3,4-trione 3-oxime;

5-benzylidene-pyrrolidine-2,3,4-trione 3-oxime;

5-(2-chlorobenzylidene)-pyrrolidine-2,3,4-trione 3-oxime;

5-(4-chlorobenzylidene)-pyrrolidine-2,3,4-trione 3-oxime;

5-(2,3-dichlorobenzylidene)-pyrrolidine-2,3,4-trione 3-oxime;

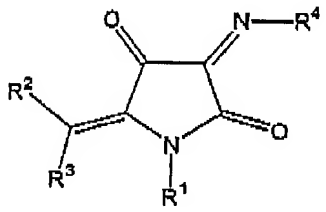
5-(2,4-dichlorobenzylidene)-pyrrolidine-2,3,4-trione 3-oxime;

5-(2,6-dichlorobenzylidene)-pyrrolidine-2,3,4-trione 3-oxime;

and

5-(3-chlorobenzylidene)-pyrrolidine-2,3,4-trione 3-oxime.

12. (Original) A method for the preparation of a substituted pyrrolidine-2,3,4-trione compound of formula I,



I

wherein

R^1 represents H, OR^8, COR^5, CSR^5, NR^6R^7, $COOR^5$, $CONR^6R^7$, $CSNR^6R^7$, a C_{1-10}-alkyl group or an unsubstituted phenyl group,

R^2, R^3, which are identical or different, represent H, F, Cl, Br, CF_3, OR^8, SR^8, a C_{1-10}-alkyl, an aryl or a heteroaryl group or represent an aryl group bonded via a C_{1-6}-alkylene group,

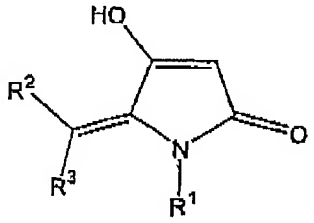
R^4 represents H,

R^5 represents H or a C_{1-10}-alkyl group,

R^6, R^7, which are identical or different, represent H, OR^8, COR^5, $COOR^5$ or a C_{1-10}-alkyl group, and

R^8 represents a C_{1-10}-alkyl group,

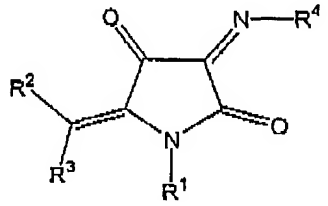
the method comprising reacting a tetramic acid of formula II



II

wherein R^1 to R^3 have the meaning according to formula I, with an aqueous solution of sodium nitrite in an ice-cooled solution.

13. (Original) A method for the preparation of a substituted pyrrolidine-2,3,4-trione compound of formula I,



I

wherein

R^1 represents H, OR^8, COR^5, CSR^5, NR^6R^7, $COOR^5$, $CONR^6R^7$, $CSNR^6R^7$, a C_{1-10}-alkyl group or an unsubstituted phenyl group,

R^2, R^3, which are identical or different, represent H, F, Cl, Br, CF_3, OR^8, SR^8, a C_{1-10}-alkyl, an aryl or a heteroaryl group or represent an aryl group bonded via a C_{1-6}-alkylene group,

R^4 represents OR^8,

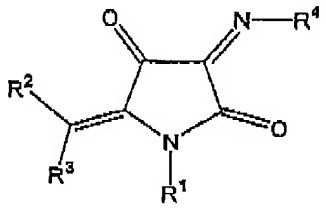
R^5 represents H or a C_{1-10}-alkyl group,

R^6, R^7, which are identical or different, represent H, OR^8, COR^5, $COOR^5$ or a C_{1-10}-alkyl group, and

R^8 represents a C_{1-10}-alkyl group,

the method comprising reacting a compound of formula I wherein R^4 represents OH, with a C_{1-10}-alkyl halide in absolute solvents at low temperatures in the presence of strong bases to give rise to a compound of formula I wherein R^4 represents OR^8 .

14. (Original) A method for the preparation of a substituted pyrrolidine-2,3,4-trione compound of the formula I,



I

wherein

R^1 represents H, OR^8, COR^5, CSR^5, NR^6R^7, $COOR^5$, $CONR^6R^7$, $CSNR^6R^7$, a C_{1-10}-alkyl group or an unsubstituted phenyl group,

R^2, R^3, which are identical or different, represent H, F, Cl, Br, CF_3, OR^8, SR^8, a C_{1-10}-alkyl, an aryl or a heteroaryl group or represent an aryl group bonded via a C_{1-6}-alkylene group,

R^4 represents COR^5 or $COOR^5$,

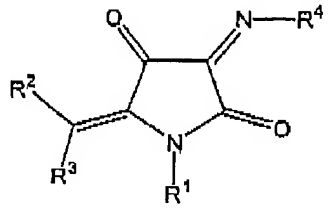
R^5 represents H or a C_{1-10}-alkyl group,

R^6, R^7, which are identical or different, represent H, OR^8, COR^5, $COOR^5$ or a C_{1-10}-alkyl group, and

R^8 represents a C_{1-10}-alkyl group,

the method comprising reacting a compound of formula I wherein R^4 represents OR^8, with an acid chloride of the formula R^5-(C=O)-Cl or an acid bromide of the formula R^5-(C=O)-Br or a chloroformic acid ester of the formula Cl-(C=O)-O-R^5 or a fluoroformic acid ester of the formula F-(C=O)-O-R^5, or with an open-chain carbonate of the formula R^5-O-(C=O)-O-R^5, or with a correspondingly substituted cyclic carbonate, wherein in each case R^5 represents H or a C_{1-10}-alkyl group,in an absolute solvent to give rise to a compound of formula I wherein R^4 represents COR^5 or $COOR^5$.

15. (Original) A method for the preparation of a substituted pyrrolidine-2,3,4-trione compound of formula I



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wherein

R^1 represents H, OR^8, COR^5, CSR^5, NR^6R^7, $COOR^5$, $CONR^6R^7$, $CSNR^6R^7$, a C_{1-10}-alkyl group or an unsubstituted phenyl group,

R^2, R^3, which are identical or different, represent H, F, Cl, Br, CF_3, OR^8, SR^8, a C_{1-10}-alkyl, an aryl or a heteroaryl group or represent an aryl group bonded via a C_{1-6}-alkylene group,

R^4 represents $CONR^6R^7$ or $CSNR^6R^7$,

R^5 represents H or a C_{1-10}-alkyl group,

R^6, R^7, which are identical or different, represent H, OR^8, COR^5, $COOR^5$ or a C_{1-10}-alkyl group, and

R^8 represents a C_{1-10}-alkyl group,

the method comprising reacting a compound of formula I wherein R^4 represents OH with aliphatic isocyanates or isothiocyanates at low temperatures in aprotic polar solvents to give rise to a compound of formula I wherein R^4 represents $CONR^6R^7$ or $CSNR^6R^7$, and R^6 or R^7 denotes H.

16. (Original) A method according to claim 12, wherein the tetramic acid of formula II is reacted with an aqueous solution of sodium nitrite in an ice-cooled solution of glacial acetic acid.

17. (Original) A method according to claim 12, further comprising purifying the compound of formula I wherein R^4 represents OH by recrystallization.

18. (Currently amended) A method ~~of~~ according to Claim 17, wherein the purifying is by recrystallization from ethanol.

19. (Original) A method according to claim 13, wherein the compound of formula I wherein R^4 represents OH is reacted under an inert gas atmosphere.

20. (Original) A method according to claim 13, wherein the compound of formula I wherein R^4 represents OH is reacted in open-chain or cyclic ethers, or both.

21. (Original) A method according to claim 13, wherein the compound of formula I wherein R^4 represents OH is reacted in the presence of one or more of alkali metal hydroxides, alkaline earth metal hydroxides and organometallic bases.

22. (Original) A method according to claim 13, wherein the compound of formula I wherein R^4 represents OH is reacted with C_{1-6}-alkyl halides.

23. (Original) A method according to claim 14, wherein the compound of formula I wherein R^4 represents OR^8 is reacted under an inert gas atmosphere.

24. (Original) A method according to claim 14, wherein the compound of formula I wherein R^4 represents OR^8 is reacted in open-chain or cyclic ethers, or both.

25. (Original) A method according to claim 14, wherein the cyclic carbonate employed contains 5 or 6 atoms in the ring.

26. (Currently amended) A pharmaceutical composition comprising a substituted ~~a~~ pyrrolidine-2,3,4-trione compound according to claim 1, or a

corresponding pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable excipient.

27. (Currently amended) A method for treatment of one or more of pain, inflammatory reactions, allergic reactions, ~~depressions, drug abuse, alcohol abuse,~~ gastritis, diarrhoea, urinary incontinence, cardiovascular diseases, respiratory tract diseases, coughing, ~~mental illnesses,~~ epilepsy, schizophrenia, ~~Alzheimer's disease,~~ Huntington's disease, Parkinson's disease, cerebral ischaemias, cerebral infarctions, psychoses caused by increased amino acid levels, apoplexies, cerebral oedemas, hypoxia, anoxia, ~~AIDS dementia,~~ encephalomyelitis, Tourette's syndrome, and perinatal asphyxia ~~and anxiolysis~~, comprising administering to a patient in need thereof an effective amount of the pharmaceutical composition of claim 26.

28. (Currently amended) A method according to Claim 27, wherein the method is for the treatment of one or more of pain, inflammatory reactions, allergic reactions, ~~depressions, drug abuse, alcohol abuse,~~ gastritis, diarrhoea, urinary incontinence, cardiovascular diseases, respiratory tract diseases, coughing ~~, mental illnesses~~ and epilepsy.

29. (Currently amended) A method according to claim 27, wherein the method is for treatment or prophylaxis of schizophrenia, ~~Alzheimer's disease,~~ Huntington's disease, Parkinson's disease, cerebral ischaemias, cerebral infarctions, psychoses caused by increased amino acid levels, apoplexies, cerebral oedemas, hypoxia, anoxia, ~~AIDS dementia,~~ encephalomyelitis, Tourette's syndrome, or perinatal asphyxia ~~or for anxiolysis,~~ comprising administering the pharmaceutical composition of claim 25 to a patient in need thereof.